



Bristol-Myers Squibb Manufacturing Company

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***RCRA Corrective Action Program  
Quarterly Progress Report No. 62  
1<sup>st</sup> Quarter 2016***

***Bristol-Myers Squibb Manufacturing Company  
Humacao, Puerto Rico***

***April 2016***

19 APR 2016



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- A. 4<sup>th</sup> Quarter 2015 Groundwater Sampling Analytical Results
- B. Vapor Intrusion Sample Analytical Results (on CD)
- C. 4<sup>th</sup> Quarter 2015 Groundwater Laboratory Analytical Reports, Vapor Intrusion Laboratory Analytical Reports, Groundwater Field Data Sheets, Data Validation Reports (on CD)

## **1.0 Introduction**

Bristol-Myers Squibb Manufacturing Company (BMSMC) is currently implementing a RCRA Corrective Action Program at its pharmaceutical manufacturing facility located in Humacao, Puerto Rico. The program is being conducted in accordance with the provisions of Module III of BMSMC's Final RCRA Hazardous Waste Treatment and Storage Permit No. PRD090021056.

This quarterly progress report has been prepared in accordance with the provisions of Module III, Condition B.8 (a) of the Permit. The report covers the period October 1, 2015 through December 31, 2015. All available information required by Condition B.8 (a)(i) through (viii) is provided below.

The RCRA Corrective Action Program addresses three solid waste management units (SWMUs) at which impacts to soil and/or groundwater have been detected. The status of the corrective action program at each SWMU is briefly described below.

- Former Underground Tank Farm (SWMU #3) - This SWMU consisted of 26 underground storage tanks for the storage of raw materials, kerosene and spent solvents for reclamation. BMSMC submitted a CMS Report to USEPA in June 2007 that documented the improving groundwater quality and provided recommendations for the Final Corrective Measure. An updated CMS report was submitted to the USEPA in July 2011.

BMSMC conducted quarterly groundwater sampling at seven wells at this SWMU from March 2000 to December 2010 as part of the site-wide monitoring program. On March 12, 2010 BMSMC submitted a request for a permit modification to reduce the groundwater monitoring program. Based on USEPA comments, BMSMC submitted a revised request for a permit modification to the USEPA on July 20, 2010. BMSMC received approval for the permit modification from the USEPA on December 29, 2010. The reduction in groundwater monitoring as detailed in the permit modification was initiated during the March 2011 groundwater sampling event. As per the permit modification, monitoring wells at SWMU #3 are sampled semiannually. Semiannual sampling started with the March 2011 sampling event.

Monitoring wells MW-17 and MW-18, installed during the 2011 Supplemental Field Investigation, were sampled on a voluntary basis from June 2011 to June 2012. A request to include monitoring wells MW-17 and MW-18 into the SWMU #3 groundwater monitoring network was included in the Class 2 Permit Modification Request filed with



the USEPA on May 16, 2012. On August 14, 2012, BMSMC received approval for the Class 2 Permit Modification incorporating monitoring wells MW-17 and MW-18 into the groundwater monitoring network. Monitoring wells MW-17 and MW-18 were incorporated into the groundwater monitoring network beginning with the September 2012 groundwater sampling event.

- Former Brule Incinerator (SWMU #9) - This SWMU is the site of a former hazardous waste incinerator. The interim corrective measure (ICM) consisted of excavation of petroleum impacted soil. The *Interim Corrective Measure Implementation Report* was submitted to USEPA in February 2002. This report was approved by USEPA in a letter dated March 28, 2002.
- Building 5 Area (SWMU #20) - This SWMU encompasses an area adjacent to and east of Building 5. BMSMC submitted a revised CMS Report to USEPA in June 2007 that provided recommendations for the Final Corrective Measure. The recommended corrective measure included a combination of source area excavation and MNA. An updated CMS report was submitted to the USEPA in July 2011.

BMSMC implemented an Interim Corrective Measure (ICM) to address source area soils in the Building 5 Area. The ICM Work Plan, which included four phases of excavation, treatment, and reuse or offsite disposal of impacted soil, was submitted to USEPA in September 2003 and approved by USEPA in December 2004. Four phases of soil excavation and treatment were conducted between 2006 and 2011 during which approximately 7,400 cubic yards of soil was excavated and treated. Each of the excavation areas (Phase 1 through Phase 4; designated as Areas A through D) are shown on **Figure 1**.

On August 14, 2012, BMSMC received approval for a Class 2 Permit Modification for Temporary Authorization to operate a temporary unit (TU) for the ex-situ treatment of contaminated soil excavated from Area E and the remaining unexcavated soil from Area D that was left in place during the ICM. In addition, the USEPA approved the May 2012 *Temporary Unit Operations and Maintenance Plan (O&M Plan)* and the May 2012 *Building 5 Area Interim Corrective Measure Work Plan Area E*. Area E ICM soil removal activities were conducted from February 6, 2013 through March 2, 2013. Approximately 1,728 cubic yards of impacted soil were removed and placed into the Biopile for treatment. The Area E excavation area is shown on **Figure 1**.

BMSMC conducted quarterly groundwater sampling at the SWMU #20 from March 2000 to December 2010 as part of the site-wide monitoring program. As per the December 2010 approved permit modification, BMSMC initiated a reduced groundwater monitoring program in March 2011. The reduced groundwater monitoring program includes quarterly sampling at seven wells and semiannual sampling at 13 wells. Semiannual sampling was initiated in March 2011. Semiannual samples are collected in March and September.

On August 14, 2012, BMSMC received approval for the Class 2 Permit Modification to reactivate monitoring well D-1. Semiannual sampling of monitoring well D-1 was initiated in September 2012.

On March 13, 2013, BMSMC received conditional approval of the Class 2 Permit Modification Request for the closure of three existing monitoring wells (G-1R2, D-1, and E-1) and the installation of three replacement monitoring wells (G-1R3, D-1R, and E-1R). Conditional approval of the Class 2 Modification Request was granted pending a determination that replacement well G-1R3 complies with the objectives of the groundwater monitoring program and effectively captures the Building 5 COCs.

On September 18, 2013, BMSMC, in response to the conditional approval of the March 13, 2013 Class 2 Permit Modification Request, submitted a technical memorandum to the USEPA demonstrating the effectiveness and adequacy of the replacement monitoring wells D-1R, E-1R, and G-1R3 to capture the Building 5 COCs.

On May 5, 2014, BMSMC submitted a Class 1 Permit Modification requesting an extension of 45 days to remove hazardous soil, and the remaining non-hazardous soil that met the cleanup criteria as provided in BMSMC Permit Temporary Unit Operations and Maintenance Plan, beyond the previously permitted 90 day removal period.

On June 19, 2014, BMSMC received final approval of the Class 2 Permit Modification Request for the closure of three existing monitoring wells (G-1R2, D-1, and E-1) and the installation of three replacement monitoring wells (G-1R3, D-1R, and E-1R).

On November 14, 2014, BMSMC received conditional approval of the *Building 5 Soil Vapor Investigation Work Plan*. The Work Plan was conditionally approved by the USEPA pending the receipt of a revised work plan that addressed minor comments within 45 days of the approval letter. The revised Work Plan was submitted to the USEPA on December 4, 2014.

On February 23, 2015, BSMC received Comments on the Building 5 Area Source Removal Phase 5 Implementation Report from the USEPA. The comment letter stated that BSMC must submit a revised *Building 5 Area Source Removal Phase 5 Implementation Report* within 45 days of February 23, 2015. The revised *Building 5 Area Source Removal Phase 5 Implementation Report* was submitted to the USEPA on April 8, 2015.

- Site-Wide

On March 14, 2013, BSMC received the approved USEPA RCRA Permit Application Technical and Administrative Completeness Determination Letter for the May 2010 RCRA Part B Permit Application.

On February 26, 2015, BSMC received Comments on the Corrective Measures Study Report (July 2011) from the USEPA. In the comment letter, the USEPA stated that BSMC must submit a revised *Corrective Measures Study Report* within 60 days of February 26, 2015.

On June 3, 2015, BSMC received a letter from the USEPA that granted a time extension to respond to the Comments on the Corrective Measures Study. In the time extension letter, the USEPA granted a time extension until July 24, 2015 for the submittal of a revised *Corrective Measures Study Report*.

On July 22, 2015, BSMC submitted the *Response to USEPA Comments on July 2011 CMS Report* to the USEPA. The Response to USEPA Comments proposed additional work in each of the three SWMUs (FTF, Brule, and Building 5 Areas) to address USEPA comments on the July 2011 CMS.

On January 27, 2016, BSMC submitted a Release Notification Letter to the USEPA that identified certain constituents present in groundwater that are currently not being addressed under the Corrective Action Program.

On February 26, 2016, BSMC submitted a *Release Assessment Report* to the USEPA that identified specific constituents as new compounds of potential concern (COPCs) in the site's SWMUs.

On March 25, 2016, BSMC submitted a *Release Assessment Sampling and Analysis Plan*, including an updated *Quality Assurance Project Plan* (QAPP), to complete a groundwater and soil investigation to evaluate potential release(s) of COPCs.

## **2.0 Description of Work Completed**

A description of corrective action activities completed between January 1, 2016 and March 31, 2016 is presented in this section.

### **2.1 Former Tank Farm Area**

- Upgradient monitoring well MW-9 was re-developed prior to the March 2016 groundwater sampling. Monitoring well MW-9 was last sampled in 1993.
- The 1<sup>st</sup> Q 2016 groundwater sampling was conducted in March 2016. This was a semiannual sampling event and included the collection of groundwater samples at ten monitoring wells (MW-3, MW-5, MW-7, MW-13, MW-14, MW-15, MW-16, MW-17, MW-18, and upgradient well MW-9). Groundwater samples were analyzed for the following parameters:
  - Full target compound list (TCL) volatile organic compounds (VOCs), including tetrahydrofuran, p-isopropyl toluene, 1,2,4-trimethylbenzene, and benzyl chloride according to SW-846 Method 8260C;
  - Full TCL semivolatile organic compounds (SVOCs), including 1-methylnaphthalene, according to SW-846 Method 8270D;
  - Naphthalene and 1,4-Dioxane according to SW-846 8270D using Selective Ion Monitoring (SIM); and
  - Low molecular alcohols (LMAs) according to SW-846 method 8015C by direct aqueous injection (DAI).
- Locations of the groundwater monitoring wells are presented on **Figure 2**. Results from this sampling event will be included in the 2<sup>nd</sup> Q 2016 Progress Report.

### **2.2 Brule Area**

- Monitoring wells BR-1, BR-2, and BR-3 were re-developed prior to the March 2016 groundwater sampling. Monitoring wells BR-1, BR-2, and BR-3 were last sampled in June 2001.

- The 1<sup>st</sup> Q 2016 groundwater sampling was conducted in March 2016. This sampling event included the collection of groundwater samples at three monitoring wells (BR-1, BR-2, and BR-3). Groundwater samples were analyzed for the following parameters:
  - Full TCL VOCs, including tetrahydrofuran, p-isopropyl toluene, 1,2,4-trimethylbenzene, and benzyl chloride according to SW-846 Method 8260C;
  - Full TCL SVOCs, including 1-methylnaphthalene, according to SW-846 Method 8270D;
  - Naphthalene and 1,4-Dioxane according to SW-846 8270D -SIM;
  - LMAs according to SW-846 method 8015C (DAI); and
  - Extractable Petroleum Hydrocarbons (EPH) using method Massachusetts Department of Environmental Protection (MADEP) EPH Rev 1.1
- Locations of the groundwater monitoring wells are presented on **Figure 3**. Results from this sampling event will be included in the 2<sup>nd</sup> Q 2016 Progress Report.

### **2.3 Building 5 Area**

- Monitoring wells S-28, S-30, S-37, S-38, and MW-11 were re-developed prior to the March 2016 groundwater sampling. Monitoring well MW-11 was last sampled in 2000. Monitoring wells S-28, S-30, S-37, and S-38 were removed from the Building 5 Area groundwater sampling program in March 2011.
- Results of the 4<sup>th</sup> Q 2015 semiannual groundwater sampling event were validated in accordance with USEPA Region 2 guidelines. Locations of the groundwater monitoring wells are presented on **Figure 4**. The laboratory analytical results are provided in **Attachment A**.
- The second round of vapor intrusion sampling in Building 30 and Building 42 was conducted in January 2016. Six indoor air samples including one duplicate sample and six co-located sub-slab soil gas samples, including one duplicate sample, were collected in Building 30 and three co-located sub-slab soil gas and indoor air samples were also collected in Building 42. In addition, an upwind ambient air sample was also collected. Samples were collected in accordance with the approved 2012 *Building 5 Soil Vapor Investigation Work Plan* and analyzed for the complete USEPA Compendium Method TO-15 target compound list plus methane. The naphthalene concentration in indoor air

and sub-slab soil gas was determined according to USEPA Method TO-17. Analytical results were validated in accordance with USEPA Region 2 guidelines. Sample analytical results are provided on CD in **Attachment B**.

- Electronic files including full laboratory analytical reports of the groundwater and vapor intrusion samples, data validation reports, and field data sheets are included on CD in **Attachment C**.
- The 1<sup>st</sup> Q 2016 groundwater sampling event was conducted in March 2016. This was an expanded groundwater sampling event and in addition to the 14 monitoring wells included in the current groundwater monitoring program [UP-1, UP-2, A-1R(4), A-2R(2), D-1R, E-1R, G-1R(3), S-29R, S-31R(2), S-32, S-33, S-34, S-35, and S-36], groundwater samples were collected at five additional monitoring wells (S-28, S-30, S-37, S-38, and MW-11) that are not currently in the Building 5 Area groundwater monitoring program. Groundwater samples were analyzed for the following parameters:
  - Full TCL VOCs, including tetrahydrofuran, p-isopropyl toluene, 1,2,4-trimethylbenzene, and benzyl chloride according to SW-846 Method 8260C;
  - Full TCL SVOCs, including 1-methylnaphthalene, according to SW-846 Method 8270D;
  - Naphthalene and 1,4-Dioxane according to SW-846 8270D -SIM;
  - LMAs according to SW-846 method 8015C (DAI); and
  - Organochlorine pesticides  $\beta$ -BHC, 4,4'-DDD, and 4,4'-DDT according to SW-846 Method 8081B. In addition, the laboratory is assessing the feasibility of reporting additional compounds from the TCL pesticides list based on QA/QC samples and instrument calibration. If additional compounds are reported, a revised laboratory report will be prepared, and a discussion of the results will be included in the 2<sup>nd</sup> Q 2016 Progress Report.

Locations of the groundwater monitoring wells are presented on **Figure 4**. Results from this sampling event will be included in the 2<sup>nd</sup> Q 2016 Progress Report.

## **2.4 Site-Wide**

On March 10, 2016, BSMSC and USEPA representatives held a meeting at the Humacao facility to discuss the recently submitted *Release Assessment Report* and the proposed sampling and analysis scope of work.

As noted in **Section 1**, on January 27, 2016, BSMSC submitted a Release Notification Letter to the USEPA that identified certain constituents present in groundwater that are currently not being addressed under the Corrective Action Program.

On February 26, 2016, BSMSC submitted a *Release Assessment Report* to the USEPA that identified specific constituents as new compounds of potential concern (COPCs) in the site's SWMUs.

On March 25, 2016, BSMSC submitted a *Release Assessment Sampling and Analysis Plan*, including an updated *Quality Assurance Project Plan* (QAPP), to complete a groundwater and soil investigation to evaluate potential release(s) of COPCs.

## **3.0 Summary of Findings**

This section present a summary of findings based on groundwater samples collected during the 4<sup>th</sup> Q 2015 and validated during the 1<sup>st</sup> Q 2016.

### **3.1 Former Tank Farm Area**

Groundwater samples were not collected from the FTF Area during the 4<sup>th</sup> Q 2015.

As proposed in the July 2015 Response to USEPA Comments: on the July 2011 Corrective Measure Study, groundwater analytical results for samples collected in the FTF Area during 2015 are presented in **Table 1**. Results are grouped by monitoring well and COC for each sampling round conducted in the FTF Area during 2015. Ethylbenzene and toluene results for samples collected in MW-17 and MW-18 are also provided in **Table 1**. November 2015 RSLs are also provided in **Table 1**.

From **Table 1**, the concentrations of each FTF COC were significantly below the November 2015 RSLs in all groundwater samples collected during 2015. In addition, the concentrations of ethylbenzene and toluene in MW-17 and MW-18 were significantly below their November 2015 RSLs.



### 3.2 Brule Area

Groundwater samples were not collected from the Brule Area during the 4<sup>th</sup> Q 2015.

### 3.3 Building 5 Area

The 4<sup>th</sup> Q 2015 groundwater sample results from the Building 5 Area were compared to the USEPA MCLs or the November 2015 USEPA Regional Screening Levels (RSLs) for tap water in cases where MCLs do not exist. MCLs and the November 2015 RSLs for tap water for the Building 5 Area are provided in the table below. For the November 2015 RSLs, the tap water based RSL for MIBK increased from 1,200 ug/L to 6,300 ug/L. The RSLs for all other Building 5 COCs remained the same.

Parameter	MCL (µg/L)	Tap Water RSL <sup>1</sup> (µg/L)
Benzene	5	---
Ethylbenzene	700	---
Toluene	1,000	---
Xylenes (total)	10,000	---
Acetone	---	14,000
MIBK	---	6,300
Isopropyl Alcohol	---	410
Methanol	---	20,000

The 4<sup>th</sup> Q 2015 groundwater sampling results identified the COCs ethylbenzene and xylenes, at concentrations in excess of MCLs or RSLs. MCLs for one or more COCs were exceeded in in-plume wells G-1R(3) (ethylbenzene and xylene), S-31R(2) (ethylbenzene), and S-32 (ethylbenzene and xylene).

The concentrations of acetone, benzene, ethylbenzene, MIBK, toluene, and xylene within the Area E soil removal area remain significantly less than their respective pre-removal concentrations. Overall concentrations of COCs in Building 5 Area monitoring wells located downgradient of Area E were consistent with past events.

In addition to Building 5 Area COCs, the laboratory identified MTBE in A-1R(4) at a concentration (102 ug/L) above the November 2015 Tap Water RSL (14 ug/L). This data has not been validated. No other compounds have been identified by the laboratory at concentrations above their respective MCL or November 2015 Tap Water RSL.

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<sup>1</sup> USEPA RSLs updated November 2015



As proposed in the July 2015 Response to USEPA Comments on the July 2011 Corrective Measure Study, groundwater analytical results for samples collected in the Building 5 Area during 2015 are presented in **Table 2**. Results are grouped by monitoring well and COC for each sampling round conducted in the Building 5 Area during 2015.

Ethylbenzene, xylene, and isopropyl alcohol were the only COCs detected in groundwater samples collected in 2015 that exceeded their respective MCLs or November 2015 RSLs. The concentrations of all other Building 5 Area COCs were less than their respective MCL or November 2015 RSL in each groundwater sample collected in the Building 5 Area in 2015.

As proposed in the July 2015 Response to USEPA Comments, Mann-Kendall time series plots for the ethylbenzene and xylene concentration in centerline wells [A-1R(4), A-2R(2), G-1R(3), S-31R(2), and S-32] are presented in **Table 3** and **Table 4**, respectively.

Based on concentration data collected since the second quarter 2013 (after Area E removal activities), ethylbenzene concentrations in A-1R(4) and A-2R(2) exhibit a decreasing trend, ethylbenzene concentrations in G-1R(3) and S-31R(2) exhibit a stable trend, and ethylbenzene concentrations in and S-32 exhibit no trend. Xylene concentrations in A-1R(4) and A-2R(2) exhibit a decreasing trend, xylene concentrations in G-1R(3) probably exhibit a decreasing trend, xylene concentrations in S-31R(2) exhibit no trend, and xylene concentrations in S-32 exhibit a stable trend.

#### **4.0 Summary of Changes Made**

- No changes to the Corrective Action Program were made during this reporting period.

#### **5.0 Summary of Public Participation Activities**

- No public participation activities occurred during the 1<sup>st</sup> Q 2016.

#### **6.0 Summary of Problems Encountered**

- There were no problems encountered relating to the RCRA Corrective Action Program during this reporting period.

#### **7.0 Changes in Personnel**

- There were no changes in personnel during this reporting period.

## **8.0 Projected Work for Next Reporting Period**

Work scheduled to be performed during the three month period from April 1, 2016 through June 30, 2016 is described in this section.

### **8.1 Site-Wide**

The Release Assessment Sampling and Analysis Plan will be implemented during the 2<sup>nd</sup> Quarter 2016. Field investigation activities will include soil and in-situ groundwater sampling, installation of new monitoring wells, and groundwater sampling. Soil and groundwater samples will be analyzed for an expanded list of analytical parameters that will include full TCL VOCs, full TCL SVOCs, 1,4-dioxane and naphthalene by SIM, full TCL LMAs, organochlorine pesticides (at select locations), volatile petroleum hydrocarbons, and extractable petroleum hydrocarbons.

### **8.2 Former Tank Farm Area**

The 1<sup>st</sup> Q 2016 groundwater results will be validated.

The 2<sup>nd</sup> Q 2016 quarterly groundwater sampling event will be conducted in June 2016. Existing monitoring wells will be sampled for an expanded list of analytical parameters that will include full TCL VOCs, full TCL SVOCs, 1,4-dioxane and naphthalene by SIM, full TCL LMAs, volatile petroleum hydrocarbons, and extractable petroleum hydrocarbons.

### **8.3 Brule Area**

The 1<sup>st</sup> Q 2016 groundwater results will be validated.

The 2<sup>nd</sup> Q 2016 quarterly groundwater sampling event will be conducted in June 2016. Existing monitoring wells will be sampled for an expanded list of analytical parameters that will include full TCL VOCs, full TCL SVOCs, 1,4-dioxane and naphthalene by SIM, full TCL LMAs, volatile petroleum hydrocarbons, and extractable petroleum hydrocarbons.

### **8.4 Building 5 Area**

The 1<sup>st</sup> Q 2016 groundwater results will be validated.

The 2<sup>nd</sup> Q 2016 quarterly groundwater sampling event will be conducted in June 2016. Existing monitoring wells will be sampled for an expanded list of analytical parameters

that will include full TCL VOCs, full TCL SVOCs, 1,4-dioxane and naphthalene by SIM, full TCL LMAs, full TCL organochlorine pesticides, volatile petroleum hydrocarbons, and extractable petroleum hydrocarbons.

· Portable granular activated carbon (GAC) units will be installed in Building 30 in areas where elevated naphthalene concentrations were detected in indoor samples collected during the 1<sup>st</sup> Quarter of 2016. Indoor air confirmations samples will be collected in Building 30 in the 2<sup>nd</sup> Quarter 2016, approximately four weeks after the portable GAC units are deployed.

## **9.0 Additional Documentation**

· Other than the documents listed in Section 1, no additional documents were prepared during this reporting period.

*Tables*

Table 1  
Former Tank Farm Area 2015 Groundwater Analytical Results for COCs (ug/L)

COC	November 2015 MCL or Tapwater RSL	Q1-15	Q3-15
<b>MW-3</b>			
Acetone	14000	<10J	<10
Chloromethane	190	<1	<1
Methylene chloride	5	<2	<2
MIBK	6300	<5	<5
Xylene (total)	10000	0.59J	1.9
<b>MW-5</b>			
Acetone	14000	<10J	6.1J
Chloromethane	190	<1	<1
Methylene chloride	5	<2	<2
MIBK	6300	<5	<5
Xylene (total)	10000	27.7	11.4
<b>MW-7</b>			
Acetone	14000	<10J	<10
Chloromethane	190	0.48J	<1
Methylene chloride	5	<2	<2
MIBK	6300	<5	<5
Xylene (total)	10000	0.95J	32.3
<b>MW-12</b>			
Acetone	14000	NS	<10
Chloromethane	190	NS	<1
Ethylbenzene	700	NS	2.3
Methylene chloride	5	NS	<2
MIBK	6300	NS	<5
Toluene	1000	NS	0.19J
Xylene (total)	10000	NS	0.65J
<b>MW-13</b>			
Acetone	14000	<10J	<10
Chloromethane	190	<1	<1
Methylene chloride	5	<2	<2
MIBK	6300	<5	<5
Xylene (total)	10000	<1	<1
<b>MW-14</b>			
Acetone	14000	<10	<10
Chloromethane	190	<1	<1
Methylene chloride	5	<2	<2
MIBK	6300	<5	<5
Xylene (total)	10000	<1	0.61J
<b>MW-15</b>			
Acetone	14000	<10	<10
Chloromethane	190	<1	<1
Methylene chloride	5	<2	<2
MIBK	6300	<5	<5
Xylene (total)	10000	<1	<1

Table 1  
Former Tank Farm Area 2015 Groundwater Analytical Results for COCs (ug/L)

COC	November 2015 MCL or Tapwater RSL	Q1-15	Q3-15
<b><i>MW-16</i></b>			
Acetone	14000	<10	<10
Chloromethane	190	<1	<1
Methylene chloride	5	<2	<2
MIBK	6300	<5	<5
Xylene (total)	10000	<1	<1
<b><i>MW-17</i></b>			
Acetone	14000	<10	<10
Chloromethane	190	<1	<1
Ethylbenzene	700	<1	<1
Methylene chloride	5	<2	<2
MIBK	6300	<5	<5
Toluene	1000	<1	<1
Xylene (total)	10000	<1	<1
<b><i>MW-18</i></b>			
Acetone	14000	<10	<10
Chloromethane	190	<1	<1
Ethylbenzene	700	<1	<1
Methylene chloride	5	<2	<2
MIBK	6300	<5	<5
Toluene	1000	0.54J	0.31J
Xylene (total)	10000	5.9	2.4

Notes:

NS - Well not sampled

Table 2  
Building 5 Area 2015 Groundwater Analytical Results for COCs (ug/L)

COC	November 2015 MCL or Tapwater RSL	Q1-15	Q2-15	Q3-15	Q4-15
<b>A-1R(4)</b>					
Acetone	14000	<25	14.8J	<250	<50
Benzene	5	4.1	4.9	<13	3.1
Ethylbenzene	700	431	356	2820	351
Isopropyl Alcohol	410	<100	<100	<100	<100
Methanol	20000	<200	<200	<200	<200
MIBK	6300	<13	<20	85.3J	45.3
Toluene	1000	1.4J	1.1J	49.1	5.6
Xylene (total)	10000	1400	1210	9490	1320
<b>A-2R(2)</b>					
Acetone	14000	<10	<10	<10	<10
Benzene	5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	700	2.4	3.6	19.9	<1
Isopropyl Alcohol	410	<100	<100	<100	<100
Methanol	20000	<200	<200	<200	<200
MIBK	6300	<5	<5	<5	<5
Toluene	1000	<1	<1	0.68J	<1
Xylene (total)	10000	7.8	7.1	89.8	0.49J
<b>D-1R</b>					
Acetone	14000	<10	NS	<10	NS
Benzene	5	<0.5	NS	<0.5	NS
Ethylbenzene	700	<1	NS	0.3J	NS
Isopropyl Alcohol	410	<100	NS	<100	NS
Methanol	20000	<200	NS	<200	NS
MIBK	6300	<5	NS	<5	NS
Toluene	1000	<1	NS	<1	NS
Xylene (total)	10000	<1	NS	0.65J	NS
<b>E-1R</b>					
Acetone	14000	<10	NS	<10	NS
Benzene	5	0.3J	NS	0.3J	NS
Ethylbenzene	700	<1	NS	<1	NS
Isopropyl Alcohol	410	<100	NS	<100	NS
Methanol	20000	<200	NS	<200	NS
MIBK	6300	<5	NS	<5	NS
Toluene	1000	<1	NS	<1	NS
Xylene (total)	10000	0.68J	NS	0.75J	NS
<b>G-1R(3)</b>					
Acetone	14000	<2000	<2000	<2000	<1000
Benzene	5	<100	<100	<100	<50
Ethylbenzene	700	24800	27200	28200	25300
Isopropyl Alcohol	410	<100	<100	<100	<100
Methanol	20000	<200	<200	<200	<200
MIBK	6300	<1000	<1000	<1000	<500
Toluene	1000	168J	154J	96J	109
Xylene (total)	10000	82300	87200	85300	79400

Table 2  
Building 5 Area 2015 Groundwater Analytical Results for COCs (ug/L)

COC	November 2015 MCL or Tapwater RSL	Q1-15	Q2-15	Q3-15	Q4-15
<b>S-29R</b>					
Acetone	14000	<10	NS	<10	NS
Benzene	5	<0.5	NS	<0.5	NS
Ethylbenzene	700	<1	NS	<1	NS
Isopropyl Alcohol	410	<100	NS	<100	NS
Methanol	20000	<200	NS	<200	NS
MIBK	6300	<5	NS	<5	NS
Toluene	1000	<1	NS	<1	NS
Xylene (total)	10000	<1	NS	<1	NS
<b>S-31R(2)</b>					
Acetone	14000	<200	<200	<100	<200
Benzene	5	<10	<10	2.6J	<10
Ethylbenzene	700	2290	5660	3740	2470
Isopropyl Alcohol	410	<100	<100	<100	<100
Methanol	20000	<200	<200	<200	<200
MIBK	6300	<100	<100	<50	<100
Toluene	1000	<20	<20	<10	<20
Xylene (total)	10000	379	<20	<10	467
<b>S-32</b>					
Acetone	14000	<2000	<2000	<1000	<2500
Benzene	5	<100	<100	<50	<130
Ethylbenzene	700	49500	44500	44800	39800
Isopropyl Alcohol	410	<100	<100	<100	<100
Methanol	20000	<200	<200	<200	<200
MIBK	6300	<1000	<1000	<500	<1300
Toluene	1000	80.8J	68.5J	49.7J	70.1J
Xylene (total)	10000	81900	81800	72800	66900
<b>S-33</b>					
Acetone	14000	<10	<10	<10	<10
Benzene	5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	700	<1	<1	<1	1.9
Isopropyl Alcohol	410	<100	<100	<100	<100
Methanol	20000	<200	<200	<200	<200
MIBK	6300	<5	<5	<5	<5
Toluene	1000	<1	<1	<1	<1
Xylene (total)	10000	<1	<1	<1	6.2
<b>S-34</b>					
Acetone	14000	<10	NS	<10	NS
Benzene	5	<0.5	NS	<0.5	NS
Ethylbenzene	700	<1	NS	<1	NS
Isopropyl Alcohol	410	<100	NS	<100	NS
Methanol	20000	<200	NS	<200	NS
MIBK	6300	<5	NS	<5	NS
Toluene	1000	<1	NS	<1	NS
Xylene (total)	10000	<1	NS	<1	NS



Table 2  
Building 5 Area 2015 Groundwater Analytical Results for COCs (ug/L)

COC	November 2015 MCL or Tapwater RSL	Q1-15	Q2-15	Q3-15	Q4-15
<b>S-35</b>					
Acetone	14000	<10	NS	<10	NS
Benzene	5	<0.5	NS	<0.5	NS
Ethylbenzene	700	<1	NS	<1	NS
Isopropyl Alcohol	410	<100	NS	<100	NS
Methanol	20000	<200	NS	<200	NS
MIBK	6300	<5	NS	<5	NS
Toluene	1000	<1	NS	<1	NS
Xylene (total)	10000	<1	NS	<1	NS
<b>S-36</b>					
Acetone	14000	<10	NS	<10	NS
Benzene	5	<0.5	NS	<0.5	NS
Ethylbenzene	700	<1	NS	<1	NS
Isopropyl Alcohol	410	<100	NS	<100	NS
Methanol	20000	<200	NS	<200	NS
MIBK	6300	<5	NS	<5	NS
Toluene	1000	<1	NS	<1	NS
Xylene (total)	10000	<1	NS	<1	NS
<b>UP-1</b>					
Acetone	14000	<10	5.2J	<10	<10
Benzene	5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	700	<1	0.31J	3.7	8.3
Isopropyl Alcohol	410	<100	1070	<100	<100
Methanol	20000	<200	602	<200	<200
MIBK	6300	<5	<5	<5	<5
Toluene	1000	<1	<1	<1	<1
Xylene (total)	10000	0.71J	0.89J	3.7	2.2
<b>UP-2</b>					
Acetone	14000	<10	NS	<10	NS
Benzene	5	<0.5	NS	<0.5	NS
Ethylbenzene	700	<1	NS	<1	NS
Isopropyl Alcohol	410	<100	NS	<100	NS
Methanol	20000	<200	NS	<200	NS
MIBK	6300	<5	NS	<5	NS
Toluene	1000	<1	NS	<1	NS
Xylene (total)	10000	<1	NS	<1	NS

Notes:

NS - Well not sampled during quarterly event

Concentrations that exceed the MCL or November 2015 Tapwater RSL are shown shaded.

Table 3  
Mann-Kendall Results for Ethylbenzene - 2015 (Building 5 Area)

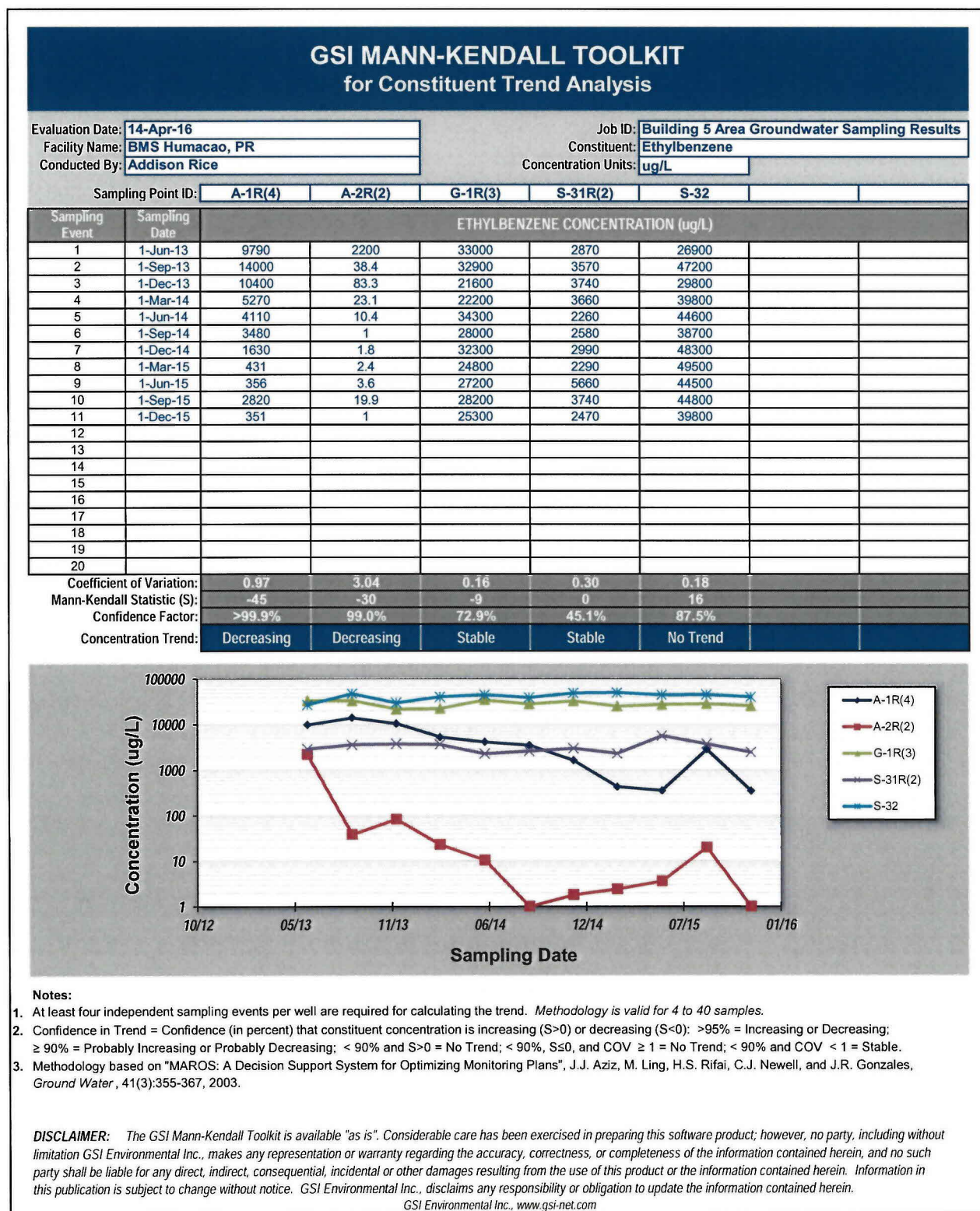
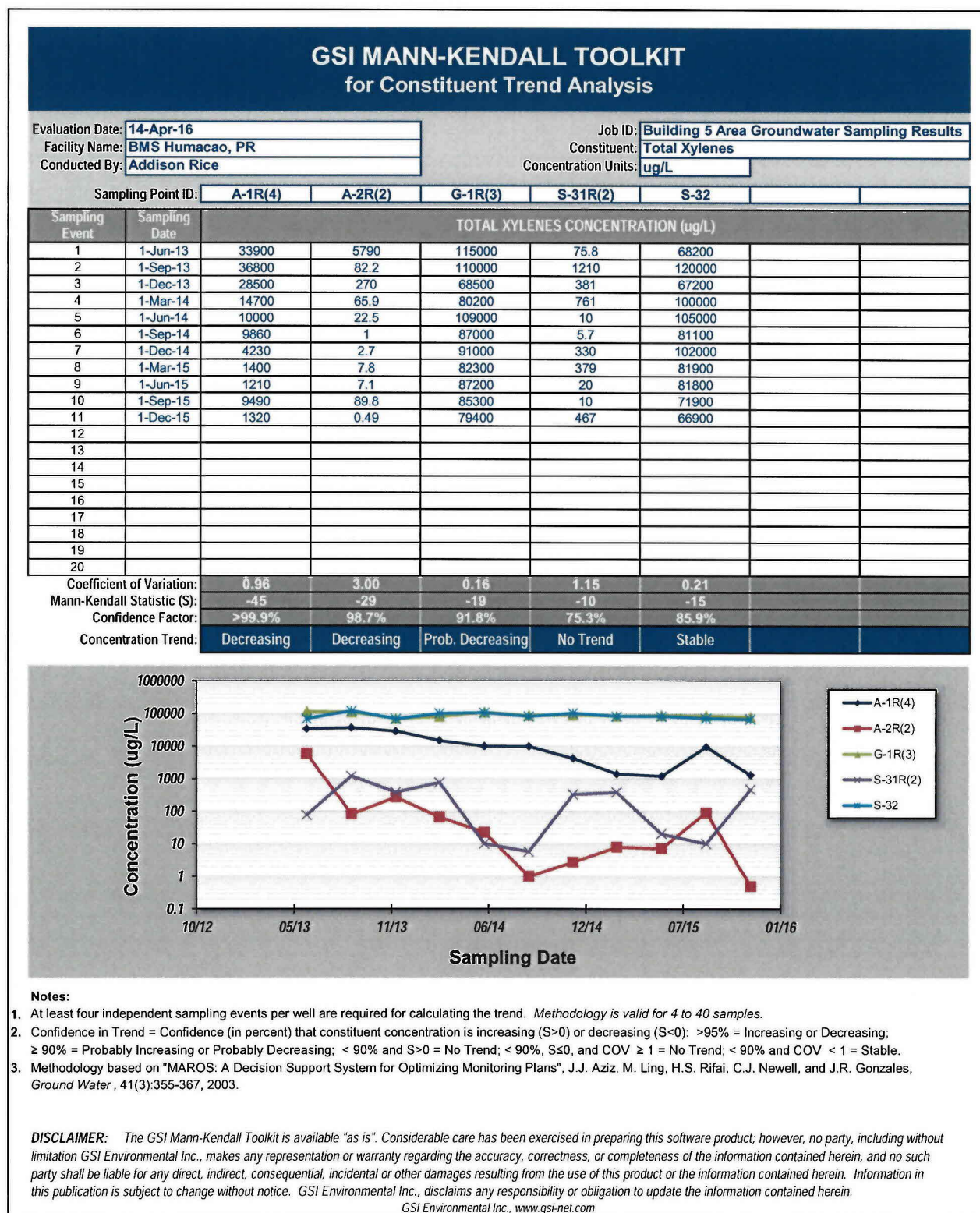


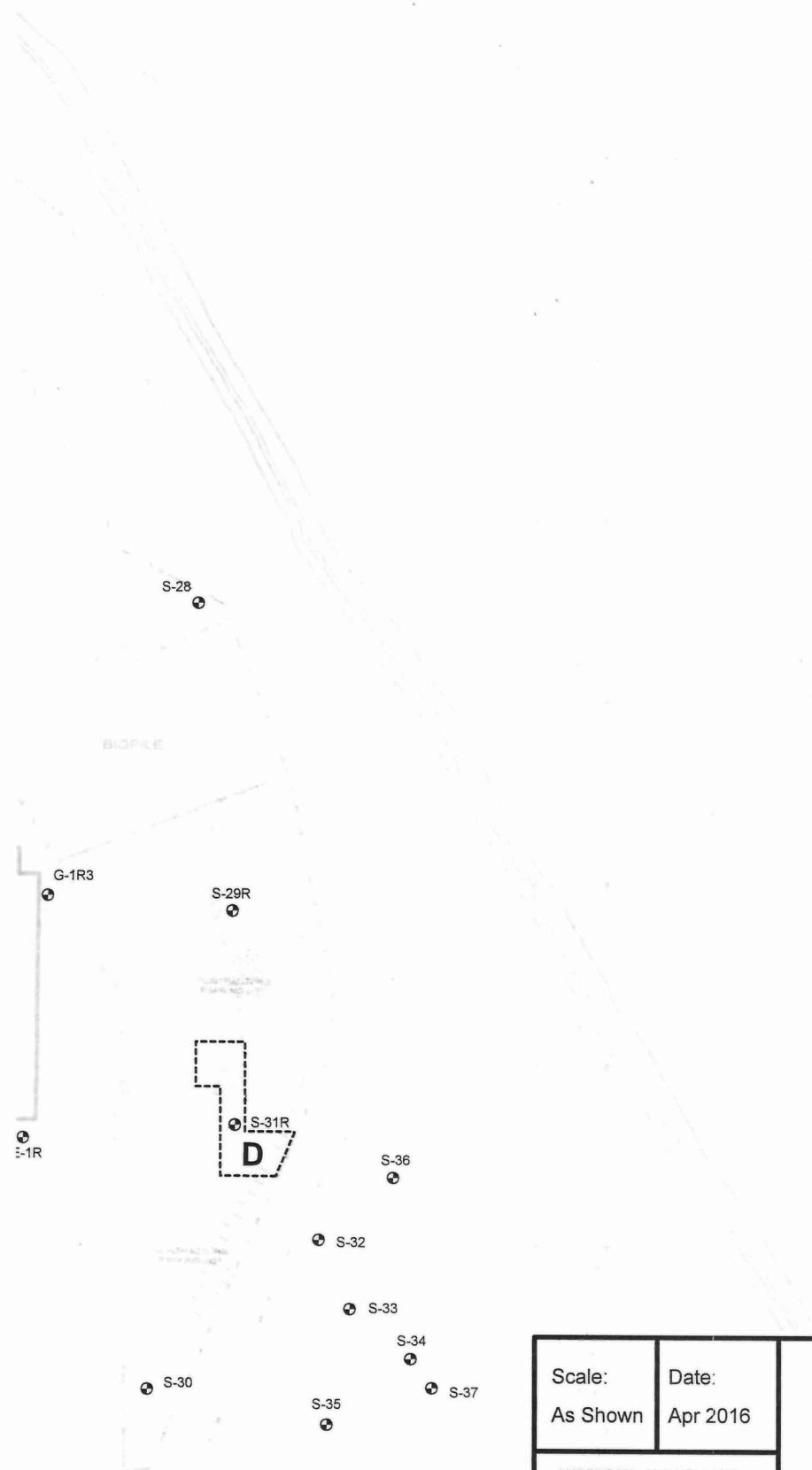
Table 4  
Mann-Kendall Results for Xylenes - 2015 (Building 5 Area)





## *Figures*

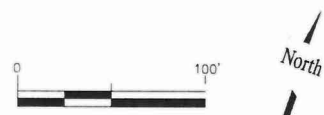






# **LEGEND**

- S-36  
 MONITORING WELL
-  EXCAVATION AREA



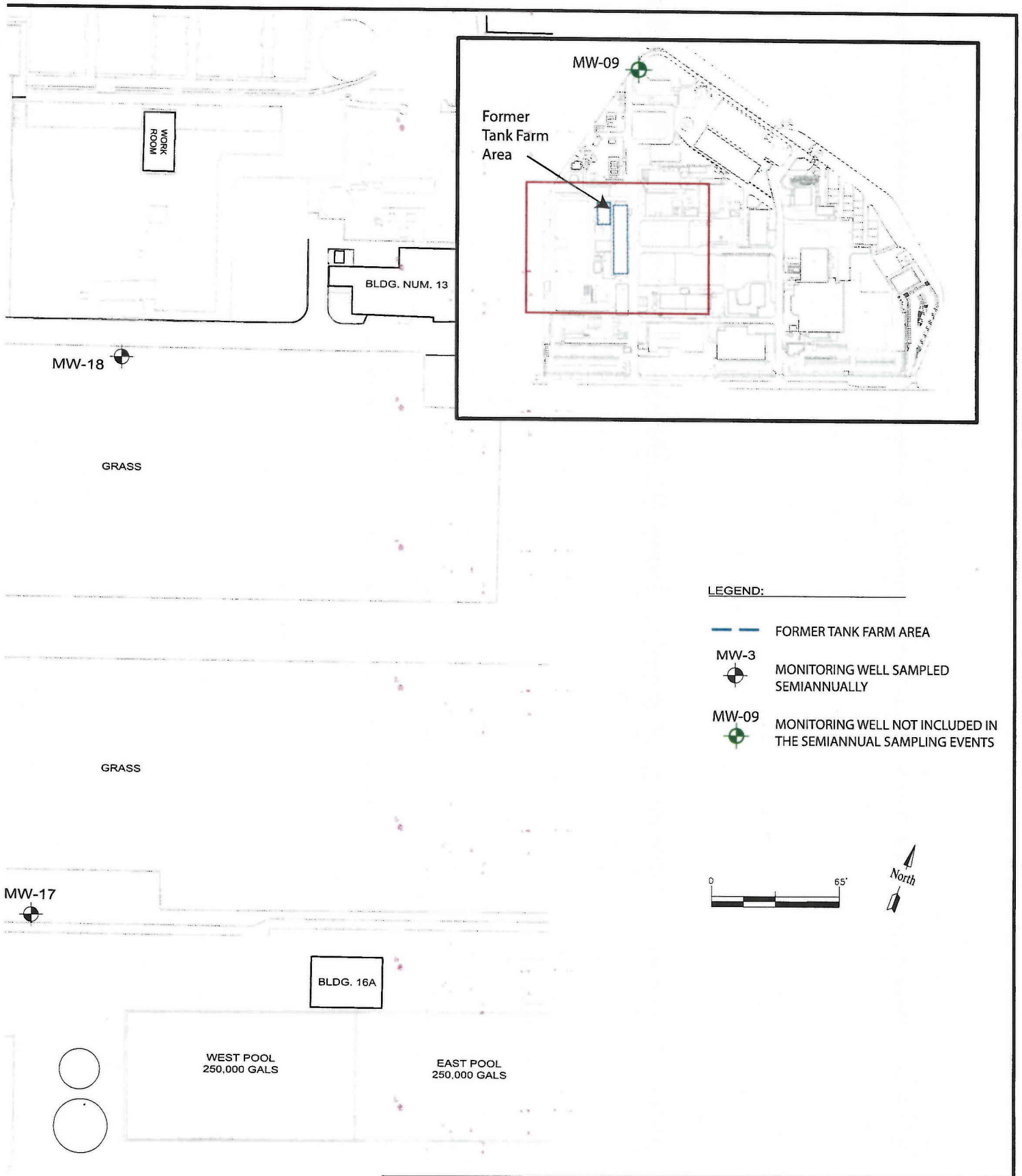
Scale:  
As Shown

Date:  
Apr 2016

ANDERSON - MULHOLLAND  
& ASSOCIATES, INC.  
WHITE PLAINS, NEW YORK

## **Figure 1** **Soil Excavation Areas** **Building 5 Area**

Bristol-Myers Squibb Manufacturing Company  
Humacao, Puerto Rico



Scale	Date	<p><b>Figure 2</b></p> <p><b>Location of Groundwater Monitoring Wells</b></p> <p><b>Former Tank Farm Area</b></p> <p>Bristol-Myers Squibb Manufacturing Company</p> <p>Humacao, Puerto Rico</p>
	Apr 2016	
<p>ANDERSON - MULHOLLAND &amp; ASSOCIATES, INC.</p> <p>WHITE PLAINS, NEW YORK</p> <p>SAN JUAN, PUERTO RICO</p>		

STORAGE SHACK  
WOOD BLDG.

STREET-E

MW-16

TANK

ABOVE GROUND LP TANKS

CONCRETE  
SLAB

MW-7

FORMER  
TANK FARM  
(SYSTEM 2)

MW-12

MW-3

FORMER  
TANK FARM  
(SYSTEM 1)

FORMER  
SOLVENT RECOVERY  
AREA

MW-13

CONCRETE SLAB

CONCRETE SLAB

BLDG.  
NUM. 11

MW-5

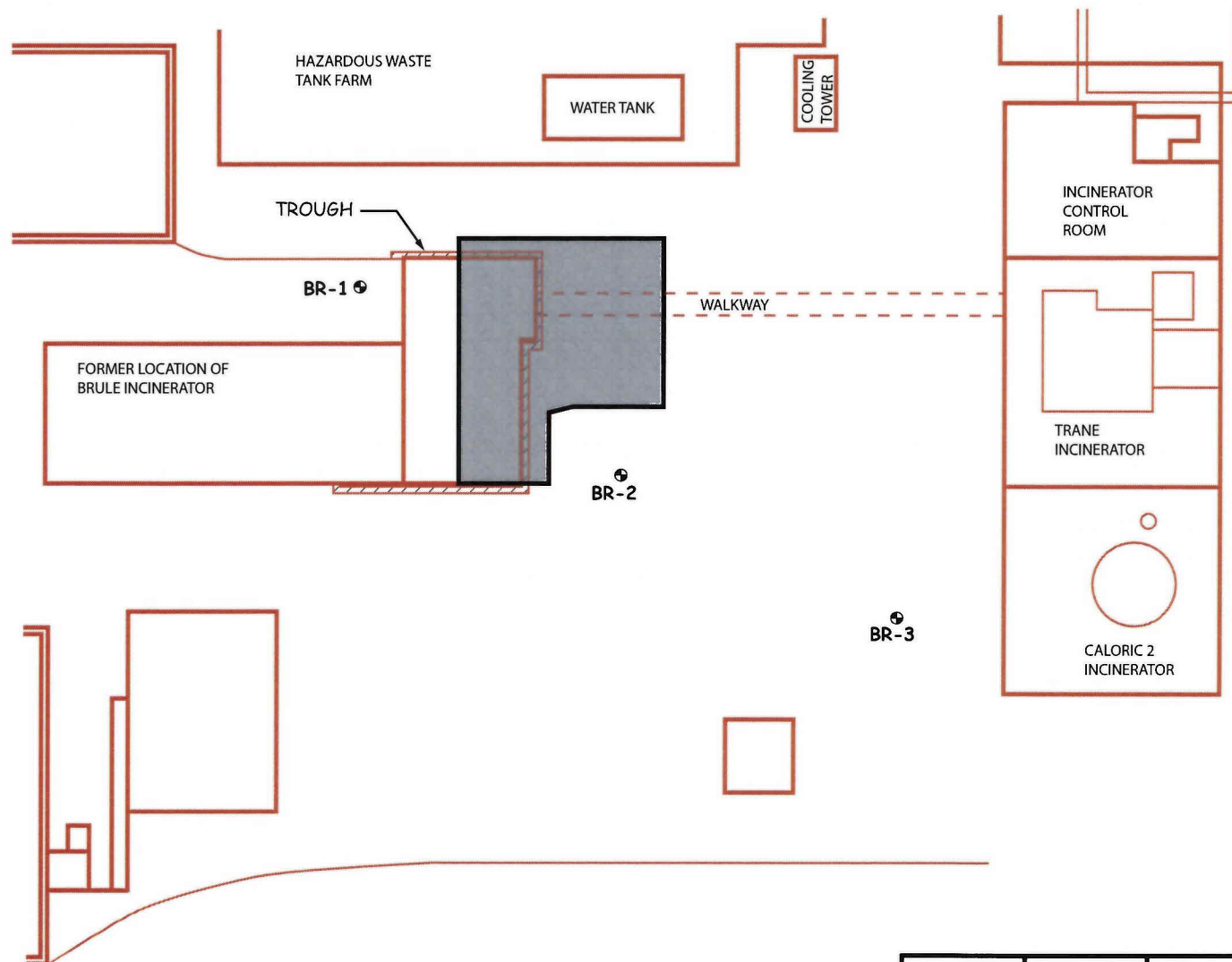
CONCRETE SLAB

BLDG. NUM. 8

MW

M





# **LEGEND**

- MONITORING WELL LOCATION
- SOIL REMOVAL AREA (2001)



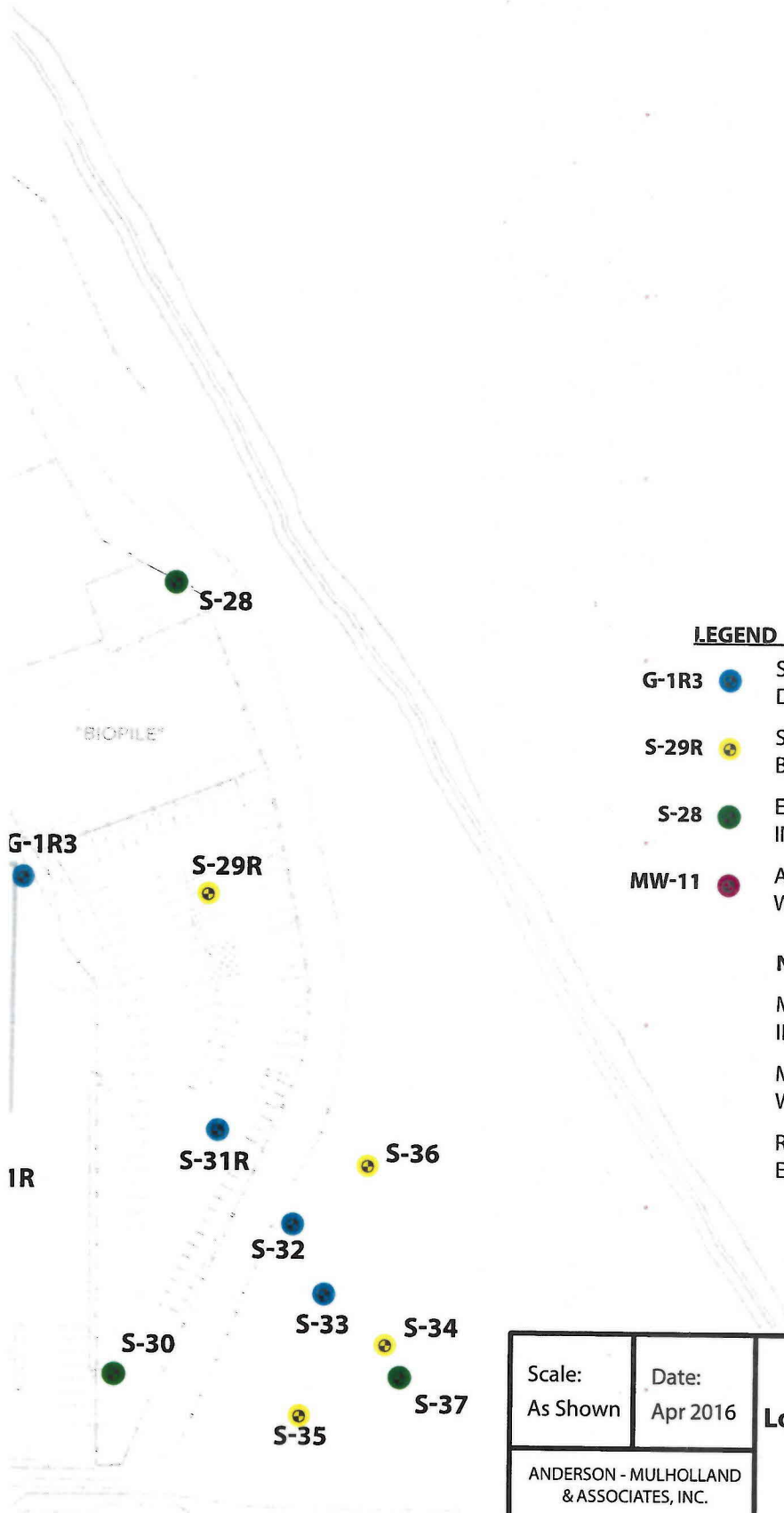
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As Shown

Date:  
Apr 2016

ANDERSON - MULHOLLAND  
& ASSOCIATES, INC.  
PURCHASE, NEW YORK

**Figure 3**  
**Location of Groundwater Monitoring Wells**  
**Brule Area**

Bristol-Myers Squibb Manufacturing Company  
Humacao, Puerto Rico



#### LEGEND

- G-1R3** ● SAMPLED QUARTERLY (JUNE AND DECEMBER) BEGINNING MARCH 2011
- S-29R** ● SAMPLED SEMIANNUALLY (MARCH AND SEPTEMBER) BEGINNING MARCH 2011
- S-28** ● ELIMINATED FROM MONITORINGWELL NETWORK IN MARCH 2011
- MW-11** ● ADDITIONAL MONITORING WELL NOT IN MONITORING WELL NETWORK

#### NOTES:

MONITORING WELL D-1 WAS REACTIVATED IN SEPTEMBER 2012.

MONITORING WELLS G-1R2, D-1, E-1, AND F-1 WERE SEALED AND CLOSED IN APRIL 2013.

REPLACEMENT MONITORING WELLS A-1R4, D-1R, E-1R, AND G-1R3 WERE INSTALLED IN APRIL 2013.

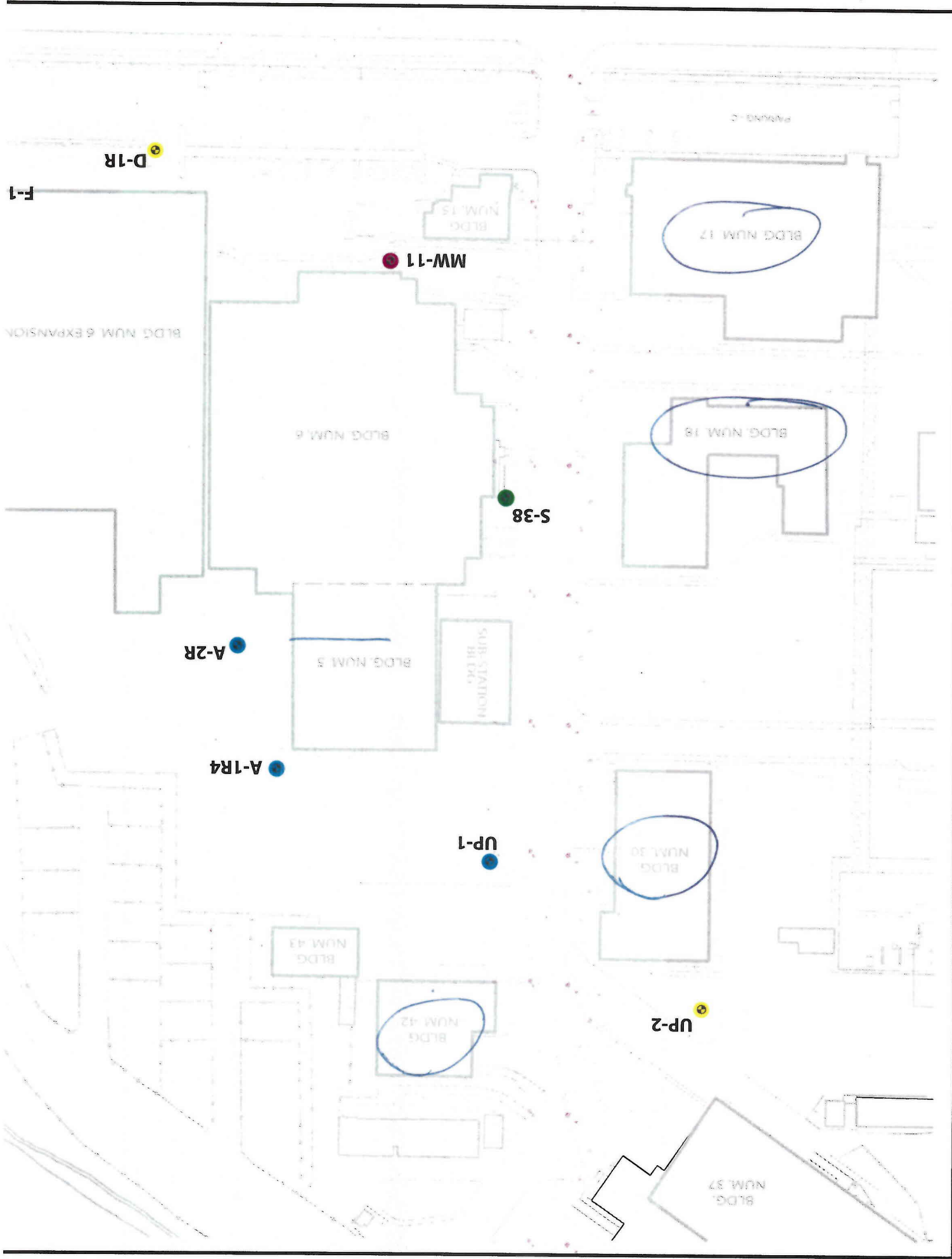
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As Shown

Date:  
Apr 2016

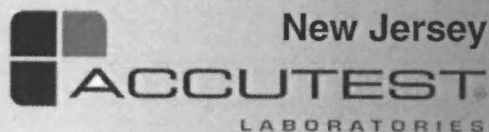
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& ASSOCIATES, INC.  
PURCHASE, NEW YORK

### Figure 4 Location of Groundwater Monitoring Wells Building 5 Area

Bristol-Myers Squibb Manufacturing Company  
Humacao, Puerto Rico



*Attachment A*  
*Groundwater Sampling Results*



12/24/15

## Technical Report for

Anderson, Mulholland & Associates

BMSMC, Building 5 Area, PR

SM04.00.06

Accutest Job Number: JC10289

Sampling Dates: 12/08/15 - 12/09/15

### Report to:

Anderson, Mulholland & Associates

arice@amaiconsult.com

ATTN: Addison Rice

Total number of pages in report: 29



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

A handwritten signature in cursive script that reads 'Nancy Cole'.

Nancy Cole  
Laboratory Director

Client Service contact: Tammy McCloskey 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, DE, FL, IL, IN, KS, KY, LA, MA, MD, MI, MT, NC, OH VAP (CL0056), AK (UST 103), AZ (AZ0786), PA, RI, SC, TN, TX, VA, WV, DoD ELAP (I. A B L2248)

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Test results relate only to samples analyzed.

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## Sample Summary

Anderson, Mulholland &amp; Associates

Job No: JC10289

BMSMC, Building 5 Area, PR  
Project No: SM04.00.06

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
JC10289-1	12/08/15	13:46 NMR	12/10/15	AQ	Ground Water	G-1R(3)
JC10289-2	12/08/15	15:47 NMR	12/10/15	AQ	Ground Water	UP-1
JC10289-3	12/09/15	10:30 NMR	12/10/15	AQ	Ground Water	S-31R(2)
JC10289-4	12/09/15	11:55 NMR	12/10/15	AQ	Ground Water	S-33
JC10289-4D	12/09/15	12:03 NMR	12/10/15	AQ	Water Dup/MSD	S-33 MSD
JC10289-4S	12/09/15	11:58 NMR	12/10/15	AQ	Water Matrix Spike	S-33 MS
JC10289-5	12/09/15	13:48 NMR	12/10/15	AQ	Ground Water	S-32
JC10289-6	12/09/15	10:35 NMR	12/10/15	AQ	Ground Water	S-31R(2)D
JC10289-7	12/09/15	16:27 NMR	12/10/15	AQ	Ground Water	A-1R(4)
JC10289-8	12/09/15	17:15 NMR	12/10/15	AQ	Ground Water	A-2R(2)
JC10289-9	12/09/15	17:15 NMR	12/10/15	AQ	Trip Blank Water	TB120915

**CASE NARRATIVE / CONFORMANCE SUMMARY****Client:** Anderson, Mulholland & Associates**Job No** JC10289**Site:** BMSMC, Building 5 Area, PR**Report Date** 12/23/2015 12:21:30 P

On 12/10/2015, 8 Sample(s), 1 Trip Blank(s) and 0 Field Blank(s) were received at Accutest Laboratories at a maximum corrected temperature of 3.8 C. Samples were intact and chemically preserved, unless noted below. An Accutest Job Number of JC10289 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

**Volatiles by GCMS By Method SW846 8260C****Matrix:** AQ**Batch ID:** V2D6342

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC10289-4MS, JC10289-4MSD were used as the QC samples indicated.

**Matrix:** AQ**Batch ID:** V2D6345

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC10397-2MS, JC10397-1DUP were used as the QC samples indicated.
- JC10397-1DUP: (pH=7)Sample pH did not satisfy field preservation criteria.

**Volatiles by GC By Method SW846-8015C (DAI)****Matrix:** AQ**Batch ID:** GGH5112

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC10289-4MS, JC10289-4MSD were used as the QC samples indicated.

**Matrix:** AQ**Batch ID:** GGH5114

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC10289-6MS, JC10289-6MSD were used as the QC samples indicated.

**Matrix:** AQ**Batch ID:** GGH5122

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

Accutest certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting Accutest's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

Accutest Laboratories is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by Accutest Laboratories indicated via signature on the report cover

**Wednesday, December 23, 2015****Page 1 of 1**



## Summary of Hits

Page 1 of 2

**Job Number:** JC10289  
**Account:** Anderson, Mulholland & Associates  
**Project:** BMSMC, Building 5 Area, PR  
**Collected:** 12/08/15 thru 12/09/15

3

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
<b>JC10289-1 G-1R(3)</b>						
Ethylbenzene		25300	1000	270	ug/l	SW846 8260C
Toluene		109	100	16	ug/l	SW846 8260C
Xylene (total)		79400	1000	170	ug/l	SW846 8260C
<b>JC10289-2 UP-1</b>						
Ethylbenzene		8.3	1.0	0.27	ug/l	SW846 8260C
Xylene (total)		2.2	1.0	0.17	ug/l	SW846 8260C
<b>JC10289-3 S-31R(2)</b>						
Ethylbenzene		2470	20	5.4	ug/l	SW846 8260C
Xylene (total)		467	20	3.3	ug/l	SW846 8260C
<b>JC10289-4 S-33</b>						
Ethylbenzene		1.9	1.0	0.27	ug/l	SW846 8260C
Xylene (total)		6.2	1.0	0.17	ug/l	SW846 8260C
<b>JC10289-5 S-32</b>						
Ethylbenzene		39800	250	67	ug/l	SW846 8260C
Toluene		70.1 J	250	41	ug/l	SW846 8260C
Xylene (total)		66900	250	41	ug/l	SW846 8260C
<b>JC10289-6 S-31R(2)D</b>						
Ethylbenzene		2430	25	6.7	ug/l	SW846 8260C
Toluene		3.0 J	10	1.6	ug/l	SW846 8260C
Xylene (total)		484	10	1.7	ug/l	SW846 8260C
<b>JC10289-7 A-1R(4)</b>						
Benzene		3.1	2.5	1.2	ug/l	SW846 8260C
Ethylbenzene		351	5.0	1.3	ug/l	SW846 8260C
4-Methyl-2-pentanone(MIBK)		45.3	25	5.1	ug/l	SW846 8260C
Toluene		5.6	5.0	0.81	ug/l	SW846 8260C
Xylene (total)		1320	5.0	0.83	ug/l	SW846 8260C
<b>JC10289-8 A-2R(2)</b>						
Xylene (total)		0.49 J	1.0	0.17	ug/l	SW846 8260C

## Summary of Hits

Page 2 of 2

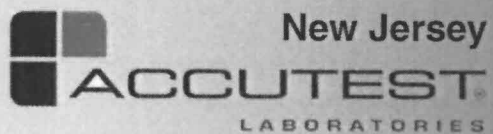
**Job Number:** JC10289  
**Account:** Anderson, Mulholland & Associates  
**Project:** BMSMC, Building 5 Area, PR  
**Collected:** 12/08/15 thru 12/09/15



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
---------------	------------------	-----------------	----	-----	-------	--------

JC10289-9      TB120915

No hits reported in this sample.



Sample Results

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Report of Analysis

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## Report of Analysis

Page 1 of 1

<b>Client Sample ID:</b>	G-1R(3)	<b>Date Sampled:</b>	12/08/15
<b>Lab Sample ID:</b>	JC10289-1	<b>Date Received:</b>	12/10/15
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	SW846 8260C		
<b>Project:</b>	BMSMC, Building 5 Area, PR		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2D150939.D	100	12/11/15	AM	n/a	n/a	V2D6342
Run #2	2D150932.D	1000	12/11/15	AM	n/a	n/a	V2D6342

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	1000	330	ug/l	
71-43-2	Benzene	ND	50	24	ug/l	
100-41-4	Ethylbenzene	25300 <sup>a</sup>	1000	270	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	500	100	ug/l	
108-88-3	Toluene	109	100	16	ug/l	
1330-20-7	Xylene (total)	79400 <sup>a</sup>	1000	170	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%	98%	76-120%
17060-07-0	1,2-Dichloroethane-D4	98%	97%	73-122%
2037-26-5	Toluene-D8	99%	99%	84-119%
460-00-4	4-Bromofluorobenzene	97%	99%	78-117%

(a) Result is from Run# 2

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

## Report of Analysis

Page 1 of 1

<b>Client Sample ID:</b>	G-1R(3)						
<b>Lab Sample ID:</b>	JC10289-1					<b>Date Sampled:</b>	12/08/15
<b>Matrix:</b>	AQ - Ground Water					<b>Date Received:</b>	12/10/15
<b>Method:</b>	SW846-8015C (DAI)					<b>Percent Solids:</b>	n/a
<b>Project:</b>	BMSMC, Building 5 Area, PR						

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GH102723.D	1	12/14/15	XPL	n/a	n/a	GGH5112
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
67-63-0	Isopropyl Alcohol	ND	100	25	ug/l	
67-56-1	Methanol	ND	200	45	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
111-27-3	Hexanol	99%		48-150%
111-27-3	Hexanol	107%		48-150%

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

## Report of Analysis

Page 1 of 1

<b>Client Sample ID:</b>	UP-1	<b>Date Sampled:</b>	12/08/15
<b>Lab Sample ID:</b>	JC10289-2	<b>Date Received:</b>	12/10/15
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	SW846 8260C		
<b>Project:</b>	BMSMC, Building 5 Area, PR		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2D150933.D	1	12/11/15	AM	n/a	n/a	V2D6342
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	3.3	ug/l	
71-43-2	Benzene	ND	0.50	0.24	ug/l	
100-41-4	Ethylbenzene	8.3	1.0	0.27	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	1.0	ug/l	
108-88-3	Toluene	ND	1.0	0.16	ug/l	
1330-20-7	Xylene (total)	2.2	1.0	0.17	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		76-120%
17060-07-0	1,2-Dichloroethane-D4	98%		73-122%
2037-26-5	Toluene-D8	100%		84-119%
460-00-4	4-Bromofluorobenzene	98%		78-117%

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

## Report of Analysis

Page 1 of 1

<b>Client Sample ID:</b>	UP-1						
<b>Lab Sample ID:</b>	JC10289-2				<b>Date Sampled:</b>	12/08/15	
<b>Matrix:</b>	AQ - Ground Water				<b>Date Received:</b>	12/10/15	
<b>Method:</b>	SW846-8015C (DAI)				<b>Percent Solids:</b>	n/a	
<b>Project:</b>	BMSMC, Building 5 Area, PR						

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GH102722.D	1	12/14/15	XPL	n/a	n/a	GGH5112
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
67-63-0	Isopropyl Alcohol	ND	100	25	ug/l	
67-56-1	Methanol	ND	200	45	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
111-27-3	Hexanol	98%		48-150%
111-27-3	Hexanol	101%		48-150%

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

## Report of Analysis

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<b>Client Sample ID:</b>	S-31R(2)	<b>Date Sampled:</b>	12/09/15
<b>Lab Sample ID:</b>	JC10289-3	<b>Date Received:</b>	12/10/15
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	SW846 8260C		
<b>Project:</b>	BMSMC, Building 5 Area, PR		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2D150935.D	20	12/11/15	AM	n/a	n/a	V2D6342
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	200	66	ug/l	
71-43-2	Benzene	ND	10	4.7	ug/l	
100-41-4	Ethylbenzene	2470	20	5.4	ug/l	
108-10-1	4-Methyl-2-pentanone(MIIBK)	ND	100	20	ug/l	
108-88-3	Toluene	ND	20	3.2	ug/l	
1330-20-7	Xylene (total)	467	20	3.3	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		76-120%
17060-07-0	1,2-Dichloroethane-D4	98%		73-122%
2037-26-5	Toluene-D8	100%		84-119%
460-00-4	4-Bromofluorobenzene	99%		78-117%

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound



## Report of Analysis

Page 1 of 1

<b>Client Sample ID:</b>	S-31R(2)						
<b>Lab Sample ID:</b>	JC10289-3					<b>Date Sampled:</b>	12/09/15
<b>Matrix:</b>	AQ - Ground Water					<b>Date Received:</b>	12/10/15
<b>Method:</b>	SW846-8015C (DAI)					<b>Percent Solids:</b>	n/a
<b>Project:</b>	BMSMC, Building 5 Area, PR						

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GH102721.D	1	12/14/15	XPL	n/a	n/a	GGH5112
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
67-63-0	Isopropyl Alcohol	ND	100	25	ug/l	
67-56-1	Methanol	ND	200	45	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
111-27-3	Hexanol	87%		48-150%
111-27-3	Hexanol	99%		48-150%

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

## Report of Analysis

Page 1 of 1

**Client Sample ID:** S-33  
**Lab Sample ID:** JC10289-4  
**Matrix:** AQ - Ground Water  
**Method:** SW846 8260C  
**Project:** BMSMC, Building 5 Area, PR

**Date Sampled:** 12/09/15  
**Date Received:** 12/10/15  
**Percent Solids:** n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2D150926.D	1	12/11/15	AM	n/a	n/a	V2D6342
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	3.3	ug/l	
71-43-2	Benzene	ND	0.50	0.24	ug/l	
100-41-4	Ethylbenzene	1.9	1.0	0.27	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	1.0	ug/l	
108-88-3	Toluene	ND	1.0	0.16	ug/l	
1330-20-7	Xylene (total)	6.2	1.0	0.17	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		76-120%
17060-07-0	1,2-Dichloroethane-D4	98%		73-122%
2037-26-5	Toluene-D8	100%		84-119%
460-00-4	4-Bromofluorobenzene	99%		78-117%

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

## Report of Analysis

Page 1 of 1

<b>Client Sample ID:</b> S-33							
<b>Lab Sample ID:</b> JC10289-4				<b>Date Sampled:</b> 12/09/15			
<b>Matrix:</b> AQ - Ground Water				<b>Date Received:</b> 12/10/15			
<b>Method:</b> SW846-8015C (DAI)				<b>Percent Solids:</b> n/a			
<b>Project:</b> BMSMC, Building 5 Area, PR							

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GH102718.D	1	12/14/15	XPL	n/a	n/a	GGH5112
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
67-63-0	Isopropyl Alcohol	ND	100	25	ug/l	
67-56-1	Methanol	ND	200	45	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
111-27-3	Hexanol	87%		48-150%
111-27-3	Hexanol	95%		48-150%

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

## Report of Analysis

Page 1 of 1

**Client Sample ID:** S-32  
**Lab Sample ID:** JC10289-5  
**Matrix:** AQ - Ground Water  
**Method:** SW846 8260C  
**Project:** BMSMC, Building 5 Area, PR

**Date Sampled:** 12/09/15  
**Date Received:** 12/10/15  
**Percent Solids:** n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2D150936.D	250	12/11/15	AM	n/a	n/a	V2D6342
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	2500	830	ug/l	
71-43-2	Benzene	ND	130	59	ug/l	
100-41-4	Ethylbenzene	39800	250	67	ug/l	
108-10-1	4-Methyl-2-pentanone(MIIBK)	ND	1300	250	ug/l	
108-88-3	Toluene	70.1	250	41	ug/l	J
1330-20-7	Xylene (total)	66900	250	41	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		76-120%
17060-07-0	1,2-Dichloroethane-D4	97%		73-122%
2037-26-5	Toluene-D8	99%		84-119%
460-00-4	4-Bromofluorobenzene	97%		78-117%

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

## Report of Analysis

Page 1 of 1

<b>Client Sample ID:</b>	S-32						
<b>Lab Sample ID:</b>	JC10289-5					<b>Date Sampled:</b>	12/09/15
<b>Matrix:</b>	AQ - Ground Water					<b>Date Received:</b>	12/10/15
<b>Method:</b>	SW846-8015C (DAI)					<b>Percent Solids:</b>	n/a
<b>Project:</b>	BMSMC, Building 5 Area, PR						

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GH102724.D	1	12/14/15	XPL	n/a	n/a	GGH5112
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
67-63-0	Isopropyl Alcohol	ND	100	25	ug/l	
67-56-1	Methanol	ND	200	45	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
111-27-3	Hexanol	90%		48-150%
111-27-3	Hexanol	100%		48-150%

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

## Report of Analysis

Page 1 of 1

**Client Sample ID:** S-31R(2)D  
**Lab Sample ID:** JC10289-6  
**Matrix:** AQ - Ground Water  
**Method:** SW846 8260C  
**Project:** BMSMC, Building 5 Area, PR

**Date Sampled:** 12/09/15  
**Date Received:** 12/10/15  
**Percent Solids:** n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2D150992.D	10	12/14/15	AM	n/a	n/a	V2D6345
Run #2	2D150937.D	25	12/11/15	AM	n/a	n/a	V2D6342

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	100	33	ug/l	
71-43-2	Benzene	ND	5.0	2.4	ug/l	
100-41-4	Ethylbenzene	2430 <sup>a</sup>	25	6.7	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	50	10	ug/l	
108-88-3	Toluene	3.0	10	1.6	ug/l	J
1330-20-7	Xylene (total)	484	10	1.7	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%	99%	76-120%
17060-07-0	1,2-Dichloroethane-D4	102%	98%	73-122%
2037-26-5	Toluene-D8	99%	99%	84-119%
460-00-4	4-Bromofluorobenzene	99%	98%	78-117%

(a) Result is from Run# 2

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

## Report of Analysis

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<b>Client Sample ID:</b>	S-31R(2)D						
<b>Lab Sample ID:</b>	JC10289-6					<b>Date Sampled:</b>	12/09/15
<b>Matrix:</b>	AQ - Ground Water					<b>Date Received:</b>	12/10/15
<b>Method:</b>	SW846-8015C (DAI)					<b>Percent Solids:</b>	n/a
<b>Project:</b>	BMSMC, Building 5 Area, PR						

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GH102744.D	1	12/15/15	XPL	n/a	n/a	GGH5114
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
67-63-0	Isopropyl Alcohol	ND	100	25	ug/l	
67-56-1	Methanol	ND	200	45	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
111-27-3	Hexanol	96%		48-150%
111-27-3	Hexanol	96%		48-150%

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

## Report of Analysis

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<b>Client Sample ID:</b>	A-1R(4)	<b>Date Sampled:</b>	12/09/15
<b>Lab Sample ID:</b>	JC10289-7	<b>Date Received:</b>	12/10/15
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	SW846 8260C		
<b>Project:</b>	BMSMC, Building 5 Area, PR		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2D150938.D	5	12/11/15	AM	n/a	n/a	V2D6342
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	50	17	ug/l	
71-43-2	Benzene	3.1	2.5	1.2	ug/l	
100-41-4	Ethylbenzene	351	5.0	1.3	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	45.3	25	5.1	ug/l	
108-88-3	Toluene	5.6	5.0	0.81	ug/l	
1330-20-7	Xylene (total)	1320	5.0	0.83	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		76-120%
17060-07-0	1,2-Dichloroethane-D4	99%		73-122%
2037-26-5	Toluene-D8	100%		84-119%
460-00-4	4-Bromofluorobenzene	97%		78-117%

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound



## Report of Analysis

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<b>Client Sample ID:</b>	A-1R(4)	<b>Date Sampled:</b>	12/09/15
<b>Lab Sample ID:</b>	JC10289-7	<b>Date Received:</b>	12/10/15
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	SW846-8015C (DAI)		
<b>Project:</b>	BMSMC, Building 5 Area, PR		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GH102747.D	1	12/15/15	XPL	n/a	n/a	GGH5114
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
67-63-0	Isopropyl Alcohol	ND	100	25	ug/l	
67-56-1	Methanol	ND	200	45	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
111-27-3	Hexanol	96%		48-150%
111-27-3	Hexanol	106%		48-150%

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

## Report of Analysis

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<b>Client Sample ID:</b>	A-2R(2)	<b>Date Sampled:</b>	12/09/15
<b>Lab Sample ID:</b>	JC10289-8	<b>Date Received:</b>	12/10/15
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	SW846 8260C		
<b>Project:</b>	BMSMC, Building 5 Area, PR		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2D150934.D	1	12/11/15	AM	n/a	n/a	V2D6342
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	3.3	ug/l	
71-43-2	Benzene	ND	0.50	0.24	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.27	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	1.0	ug/l	
108-88-3	Toluene	ND	1.0	0.16	ug/l	
1330-20-7	Xylene (total)	0.49	1.0	0.17	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		76-120%
17060-07-0	1,2-Dichloroethane-D4	98%		73-122%
2037-26-5	Toluene-D8	99%		84-119%
460-00-4	4-Bromofluorobenzene	101%		78-117%

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

## Report of Analysis

Page 1 of 1

<b>Client Sample ID:</b>	A-2R(2)						
<b>Lab Sample ID:</b>	JC10289-8					<b>Date Sampled:</b>	12/09/15
<b>Matrix:</b>	AQ - Ground Water					<b>Date Received:</b>	12/10/15
<b>Method:</b>	SW846-8015C (DAI)					<b>Percent Solids:</b>	n/a
<b>Project:</b>	BMSMC, Building 5 Area, PR						

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GH102748.D	1	12/15/15	XPL	n/a	n/a	GGH5114
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
67-63-0	Isopropyl Alcohol	ND	100	25	ug/l	
67-56-1	Methanol	ND	200	45	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
111-27-3	Hexanol	95%		48-150%
111-27-3	Hexanol	102%		48-150%

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

## Report of Analysis

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<b>Client Sample ID:</b>	TB120915	<b>Date Sampled:</b>	12/09/15
<b>Lab Sample ID:</b>	JC10289-9	<b>Date Received:</b>	12/10/15
<b>Matrix:</b>	AQ - Trip Blank Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	SW846 8260C		
<b>Project:</b>	BMSMC, Building 5 Area, PR		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2D150991.D	1	12/14/15	AM	n/a	n/a	V2D6345
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	3.3	ug/l	
71-43-2	Benzene	ND	0.50	0.24	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.27	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	1.0	ug/l	
108-88-3	Toluene	ND	1.0	0.16	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.17	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		76-120%
17060-07-0	1,2-Dichloroethane-D4	101%		73-122%
2037-26-5	Toluene-D8	98%		84-119%
460-00-4	4-Bromofluorobenzene	100%		78-117%

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

## Report of Analysis

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<b>Client Sample ID:</b>	TB120915	<b>Date Sampled:</b>	12/09/15
<b>Lab Sample ID:</b>	JC10289-9	<b>Date Received:</b>	12/10/15
<b>Matrix:</b>	AQ - Trip Blank Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	SW846-8015C (DAI)		
<b>Project:</b>	BMSMC, Building 5 Area, PR		

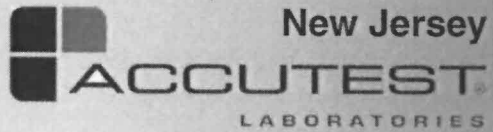
Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GH102860.D	1	12/22/15	XPL	n/a	n/a	GGH5122
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
67-63-0	Isopropyl Alcohol	ND	100	25	ug/l	
67-56-1	Methanol	ND	200	45	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
111-27-3	Hexanol	80%		48-150%
111-27-3	Hexanol	84%		48-150%

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound



## Misc. Forms

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## Custody Documents and Other Forms

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Includes the following where applicable:

- Chain of Custody

Accutest Job #:	JC10289
Accutest Quote #:	

Client Information				Facility Information								Analytical Information					
<b>Anderson Mulholland &amp; Associates</b>				<b>Anderson Mulholland and Associates Inc.</b>													
Name <b>2700 Westchester Avenue</b>				Project Name													
Address Purchase NY 10577				Location													
City State Zip				Project/PO #:													
Terry Taylor				BMS: Building 5 Area													
Send Report to: Phone #: 914-251-0400				FAX #: 914-251-1286													
				Collection				Preservation									
Field ID / Point of Collection		Date	Time	Sampled By	Matrix	# of bottles	HCL	NaOH	HNO3	H2SO4	H2S04	None	VOCs (Special List 3)				
G-1 R(3)	12/8/15	1346	NMR	GW	6	X							X	1			
UP-1	12/8/15	1547	NMR	GW	6	X							X	2			
S-31 R(2) *	12/9/15	1030	NMR	GW	6	X							X	3			
S-33		1155	NMR	GW	6	X							X	4			
S-32		1348	NMR	GW	6	X							X	5			
S-31 R(2) D		1035	NMR	GW	6	X							X	6			
S-33 MS		1158	NMR	GW	6	X							X	7			
S-33 MSD		1203	NMR	GW	6	X							X	8			
A-1 R(4)		1627	NMR	GW	6	X							X	9			
A-2 R(2) *		1745	NMR	GW	6	X							X				
TB120915	12/9/15	1745	NMR	W	2	X											
Turnaround Information				Data Deliverable Information				Comments / Remarks									
<input checked="" type="checkbox"/> 21 Day Standard Approved By: _____ <input type="checkbox"/> 14 Day _____ <input type="checkbox"/> 7 Days EMERGENCY _____ <input type="checkbox"/> Other _____ (Days) _____ RUSH TAT is for FAX data unless previously approved.				<input type="checkbox"/> NJ Reduced <input checked="" type="checkbox"/> NJ Full <input type="checkbox"/> FULL CLP <input type="checkbox"/> Disk Deliverable <input type="checkbox"/> Other (Specify) _____				<input type="checkbox"/> Commercial "A" <input type="checkbox"/> Commercial "B" <input type="checkbox"/> ASP Category B <input type="checkbox"/> State Forms				Federal Express ID # <b>801219535401</b> Lab Trip Blank Date <b>12/3/15</b> Time <b>1000</b> VOC's samples collected in 40 ml. glass vials, provided by the lab. Analyze for Special List 3 compounds (acetone, benzene, ethylbenzene, toluene, MIBK, xylene, IPA and methanol). <b>*QC VOA vials*</b>					
Sample Custody must be documented below each time samples change possession, Including courier delivery.																	
Relinquished by Sampler:		Date Time:	Received By:		Relinquished By:		Date Time:	Received By:		Relinquished by Sampler:		Date Time:	Received By:		Relinquished by Sampler:		
1 [Signature]		12/9/15/1758	FOOTE		2 [Signature]		12/10/15 0910	[Signature]		3 [Signature]			[Signature]		4 [Signature]		
Relinquished by Sampler:		Date Time:	Received By:		Relinquished By:		Date Time:	Received By:		Relinquished by Sampler:		Date Time:	Received By:		Relinquished by Sampler:		
3			3		4			4		5			5		6		
Relinquished by Sampler:		Date Time:	Received By:		Seal #		Preserved where applied		On Ice:		Relinquished by Sampler:		Date Time:		Received By:		
5			5		774		w		3.4°C		6		6		7		

## 5.1

## JC10289: Chain of Custody

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## Accutest Laboratories Sample Receipt Summary

Accutest Job Number: JC10289

Client: ANDERSON MULHOLLAND

Project: BMS: Building 5 Area

Date / Time Received: 12/10/2015 9:10:00 AM

Delivery Method: FedEx

Airbill #s: 801219535401

Cooler Temps (Raw Measured) °C: Cooler 1: (3.4);

Cooler Temps (Corrected) °C: Cooler 1: (3.8);

### Cooler Security

Y or N

1. Custody Seals Present: ☒ ☐  
2. Custody Seals Intact: ☒ ☐

3. COC Present: ☒ ☐  
4. Smp1 Dates/Time OK: ☐ ☒

### Cooler Temperature

Y or N

1. Temp criteria achieved: ☒ ☐  
2. Cooler temp verification: IR Gun  
3. Cooler media: Ice (Bag)  
4. No. Coolers: 1

### Quality Control Preservation

Y N N/A

1. Trip Blank present / cooler: ☒ ☐ ☐  
2. Trip Blank listed on COC: ☒ ☐ ☐  
3. Samples preserved properly: ☒ ☐ ☐  
4. VOCs headspace free: ☒ ☐ ☐

### Sample Integrity - Documentation

Y or N

1. Sample labels present on bottles: ☒ ☐  
2. Container labeling complete: ☒ ☐  
3. Sample container label / COC agree: ☒ ☐

### Sample Integrity - Condition

Y or N

1. Sample recvd within HT: ☒ ☐  
2. All containers accounted for: ☒ ☐  
3. Condition of sample: Intact

### Sample Integrity - Instructions

Y N N/A

1. Analysis requested is clear: ☒ ☐  
2. Bottles received for unspecified tests: ☐ ☒  
3. Sufficient volume recvd for analysis: ☒ ☐  
4. Compositing instructions clear: ☐ ☐ ☒  
5. Filtering instructions clear: ☐ ☐ ☒

Comments -8 Collection time on labels is 17:15, not 17:45. ID and date ok  
-9 No analysis marked off for TB

Accutest Laboratories  
V:732.329.0200

2235 US Highway 130  
F: 732.329.3499

Dayton, New Jersey  
www.accutest.com

JC10289: Chain of Custody

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## Sample Receipt Summary - Problem Resolution

**Accutest Job Number:** JC10289

**Initiator:** ANDREWS

**CSR:** Tammym

**Response Date** 12/10/2015

**Response:** Use 17:15 as the sample time for JC10289-8  
Sample JC10289-9 should be analyzed for Special List 3.  
Per Terry Taylor

5.1

5

Accutest Laboratories  
V:732.329.0200

2235 US Highway 130  
F: 732.329.3499

Dayton, New Jersey  
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**JC10289: Chain of Custody**  
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*Attachment B*  
*Vapor Intrusion Sampling Results (on CD)*

*Attachment C*  
*Laboratory Analytical Reports,*  
*Data Validation Reports, and*  
*Groundwater Field Data Sheets*  
*(On CD)*